

ADDITIONAL NOTES ON THE GENUS CITHAREXYLUM. XI

Harold N. Moldenke

CITHAREXYLUM SPINOSUM L.

Additional bibliography: Moldenke, *Phytologia* 32: 196--200. 1975.

Additional citations: VENEZUELA: Sucre: Ruiz-Terán & López-Palacios 9891 (Gz, Kh). GUYANA: Mell & Mell 247 (N, W--1481569). INDIA: Indore: Solanki s.n. [20.10.68] (Oa). Kerala: Sivaraman 1084 (Ld). CULTIVATED: Egypt: Collector undetermined s.n. [Nov. 1933] (Gz); Mahdi 14 (Gz, Gz), s.n. [13/4/1964] (Gz, Gz), s.n. [12/7/1964] (Gz, Gz, Gz); V. Täckholm s.n. [22/9/1959] (Gz), s.n. [2/11/1959] (Gz); Täckholm & Elsayed s.n. [22/11/1961], in part (Gz, Gz, Gz, Gz, Gz). Hawaiian Islands: Moldenke & Moldenke 28107 (Ac, Gz, Ld); R. P. Saint John s.n. [May 20, 1945] (Ba). India: Jarr s.n. [Oct. 1926] (Pd). New Zealand: W. R. Sykes 450/64 (Nz--149898). Pakistan: Qureshi s.n. [23.11.1965] (Kh, Kh, Kh). Singapore: Kiah S.174 (Ba); M. Shah MS.1230 [U. S. Pl. Introd. 75] (Ba). Sri Lanka: Herb. Roy. Bot. Gard. Perad. s.n. [April 1880; 11] (Pd), s.n. [April 1887; 11] (Pd), s.n. [River Drive, May 1894] (Pd), s.n. [seeds from S. Am.] (Pd); Moldenke, Moldenke, & Jayasuriya 28136 [E.275] (Gz, Pd, W--2764405), 28143 [E.229] (Ac, Pd, W--2764414).

CITHAREXYLUM STANDLEYI Moldenke

Additional & emended bibliography: Moldenke, *Phytologia* 4: 43 & 68 (1952) and 7: 46--47. 1959; Moldenke, *Résumé* 35, 46, & 447. 1959; Moldenke, *Phytologia* 13: 315. 1966; Moldenke, *Fifth Summ.* 1: 87 (1971) and 2: 861. 1971.

CITHAREXYLUM STANDLEYI var. MEXICANUM Moldenke

Additional bibliography: Moldenke, *Phytologia* 13: 315. 1966; Moldenke, *Fifth Summ.* 1: 68 (1971) and 2: 861. 1971.

Additional citations: MEXICO: Colima: R. McVaugh 15551 (N).

CITHAREXYLUM STENOPHYLLUM Urb. & Ekm.

Additional bibliography: Fedde & Schust. in Just, *Bot. Jahresber.* 57 (2): 401. 1938; Moldenke, *Phytologia* 13: 315. 1966; Moldenke, *Fifth Summ.* 1: 102 (1971) and 2: 861. 1971.

CITHAREXYLUM STEYERMARKII Moldenke

Additional bibliography: Moldenke, *Phytologia* 13: 315. 1966; Gibson, *Fieldiana Bot.* 24 (9): 185 & 191. 1970; Moldenke, *Fifth Summ.* 1: 78 (1971) and 2: 861. 1971; Moldenke, *Phytologia* 23: 415. 1972.

Gibson (1970) cites only Steyermark 31433, the type collec-

tion, and comments that "It should be noted that the specimen from Zacapa, Steyermark 42845, is atypical. Although Moldenke previously identified it as C. crassifolium Greenm. the lower leaf surface is not densely pubescent, but is minutely and obscurely puberulent. Some of the leaves are three times as long as broad, as in C. caudatum L., but they are short-acuminate at the apex and the rachis of the inflorescence is puberulent as in C. steyermarkii. It may be that C. steyermarkii is only a glabrate form of C. crassifolium, or both may represent only a broad-leaved form of C. caudatum L."

CITHAREXYLUM SUBEROSUM Loes.

Additional bibliography: J. F. Macbr., Field Mus. Publ. Bot. 13 (5): 670 & 680. 1960; Moldenke, Phytologia 13: 315. 1966; Moldenke, Fifth Summ. 1: 140 (1971) and 2: 861. 1971.

Macbride (1960) cites only the type collection from Apurímac, Peru.

CITHAREXYLUM SUBFLAVESCENS Blake

Additional synonymy: Citharexylum subflavescens H.B.K. ex Moldenke, Phytologia 26: 371, in syn. 1973. Citharexylum subflavescens Moldenke, Phytologia 31: 394, in syn. 1975.

Additional bibliography: Anon., U. S. Dept. Agr. Bot. Subj. Index 15: 14355. 1958; Moldenke, Phytologia 14: 511. 1967; Dwyer, Raymondiana 4: 70. 1971; Moldenke, Fifth Summ. 1: 115, 122, 357, 427, & 435--437 (1971) and 2: 861. 1971; Moldenke, Phytologia 28: 436 (1974), 31: 382, 384, 394, & 462 (1975), and 32: 49, 57, & 59. 1975; López-Palacios, Revist. Fac. Farm. Univ. Los Andes 15: 16 & 21--22. 1975.

Recent collectors describe this species as a small tree, 5--22 m. tall, the trunk 25--80 cm. in diameter at breast height, the crown ample, the leaves opposite, without glands, dark-green and shiny above, yellow ferruginous-pubescent beneath, the calyx and fruiting-calyx light-green, and the fruit green or shiny-green when immature, turning dark-blue, purplish-red, red, or purple when mature. The corollas are described as "white" on Espinal T. & Ramos 3814 and Ferreya & Acleto 15205, but as "yellow" on García-Bariga 17535. It has been found growing in woods, on wooded slopes, and in "overcast vegetation on steep slopes at side of waterfall", at altitudes of 1020--2700 meters. Additional reported vernacular names for it are "cafesón" and "gavilán".

Ruiz-Terán & López-Palacios describe the species as an "Árbol erecto, inerme, perennifolio. Tronco cilíndrico. Corteza pardogrisáceo-rosácea, ligeramente fisurada y escamosa. Hojas simples, opositodecussadas, coriáceas, verde intensas, lucientes, por la haz, densamente pardamarillento-tomentosas por el envés. Racimos axilares, alargados, con flores hermafroditas muy fragrantés (a hazmín). Cáliz verde amarillento. Corola blanca. Drupas obovoideas, 12--15 cm. de diámetro, rojo esclaratadas." Jiménez says "corteza viva formada de varias capas de color a-

naranjado pálido y crema. Hojas opuestas con reborde estipular, de 30—35 cm. de largo y 10—12 cm. de ancho; con 15—17 pares de nervios laterales."

López-Palacios (1975) comments that "Ya se habló de la posible coespecificidad entre este taxon y el *C. kunthianum*. Las diferencias observadas en ejemplares de herbario no me convencen: el color del indumento (blanco sucio en *C. kunthianum* y oliváceo en *C. subflavescens*) y la presencia o ausencia de glándulas, no me parecen lo suficientemente constantes. Sin embargo, quédense las costas como están. Bernardi registra para un ejemplar de Mérida una altura de 30 m..... Los troncos de los ejemplares de Trujillo son los más gruesos del género que yo he visto en Venezuela (70—80 cm. de D.A.P.)"

Dwyer (1971) cites Woytkowski 8207 from Amazonas, Peru.

Material has been misidentified and distributed in some herbaria as *Polyosma* sp. On the other hand, the Barclay, Juaibioy, & Gama 3189, distributed as *C. subflavescens*, is the type collection of *C. bullatum* Moldenke.

Additional citations: COLOMBIA: Cauca: Espinal T. & Ramos 3814 (Pt). Cundinamarca: Barclay, Juaibioy, & Gama 3580 (W—2702103); García-Barriga 13476 (N), 17535 (N); Idrobo & Hernández 1554 (N); Soejarto 346 (Oa). Valle del Cauca: Jiménez SAA.1856 (Ld).

VENEZUELA: Aragua: Ruiz-Terán & López-Palacios 10180 (Ac). Federal District: Delgado 201 (W—1778780). Mérida: López-Palacios 3014 (Ld). Trujillo: Collector undesignated 10769 (Vi); Ruiz-Terán & López-Palacios 7616 (Ld). PERU: Amazonas: Ferreira & Acleto 15205 (Ca—M251213).

CITHAREXYLUM SUBTHYRSOIDEUM Pittier

Additional synonymy: Aegiphila subthyrsoideum Pittier ex Moldenke, Phytologia 25: 235, in syn. 1973.

Additional bibliography: Pittier, Man. Fl. Usuel. Venez. 326 & 423. 1926; Fedde & Schust. in Just, Bot. Jahresber. 58 (2): 329. 1938; Hansford, Sydowia 10: 61. 1957; Hansford, Sydowia Ann. Myc., ser. 2, Beih. 2: 686. 1961; Moldenke, Phytologia 13: 316. 1966; Dennis, Kew Bull. Addit. Ser. 3: 258. 1970; Moldenke, Fifth Summ. 1: 115, 122, & 436 (1971) and 2: 861. 1971; Moldenke, Phytologia 25: 235 (1973) and 31: 345, 349, 382, & 461. 1975; López-Palacios, Revist. Fac. Farm. Univ. Los Andes 15: 1, 11, & 22, [fig. 3]. 1975.

Illustrations: López-Palacios, Revist. Fac. Farm. Univ. Los Andes 15: [fig. 3]. 1975.

Recent collectors describe this plant as a vining shrub or a tree, 3.5—4 m. tall, the leaves firmly membranous, dull-green above and dull paler-green beneath, or dark-green on both surfaces, and the fruit "orange-olive-green". They have encountered it on dry reforested north-facing slopes, at altitudes of 500—900 m., flowering in June, and fruiting in August. The corollas are said to have been "greenish-yellow" on J. A. Steyermark 86308.

Dennis (1970) records the fungus, Asteridiella vilis var. caracasensis Hansf. from C. subthyrsoideum in Panama, but C. subthyrsoideum does not occur in Panama as far as I am aware. His "record" is apparently an erroneous transcription of Hansford's record of this fungus on C. caudatum L. in Panama [on Stevens 979], but Hansford also records it from Venezuela on the basis of Tamayo 2395.

López-Palacios (1975) comments that this is an "Arbolito bonito. Parece ser el único del género que no (me) ha dado problemas, pues hasta la fecha no ha sido confundido con ningún otro.....Los ejemplares del Fendler han sido colocados tradicionalmente en Aragua a causa de un rótula impreso que Fendler agregó a sus exsiccatas con la invariable leyenda 'Prope Coloniám Tovar'. Sin embargo, en GH existen 2 pliegos de este 842 en uno de los cuales se encuentra la citada leyende impresa, y en otro, en manuscrito: 'Valley of Macarao 3500 23/8 - 55 4/7 -56', indicación clara de dos colecciones en Macarao, una en 1855 y otra en 1856.....Excluyo, pues, a Aragua y refiero el No 842 de Fendler a Macarao, em el Dro. Federal."

Additional & emended citations: VENEZUELA: Federal District: Fendler 842 (G, G, K); J. A. Steyermark 86308 (N). Lara: Steyermark, Delascio, Dunsterville, & Dunsterville 103643 (N, W—2621901). Yaracuy: H. M. Curran 216 (N).

CITHAREXYLUM SUBTRUNCATUM Moldenke

Additional bibliography: Moldenke, Phytologia 7: 55—56. 1959; Moldenke, Fifth Summ. 1: 148 (1971) and 2: 861. 1971.

CITHAREXYLUM SULCATUM Moldenke

Additional bibliography: Moldenke, Phytologia 13: 316. 1966; Acosta-Solis, Divis. Fitogeogr. Ecuad. 78. 1968; Moldenke, Fifth Summ. 1: 115 (1971) and 2: 861 & 968. 1971; Moldenke, Phytologia 22: 6. 1971; Hocking, Excerpt. Bot. A.21: 30. 1972; Moldenke, Biol. Abstr. 54: 6295. 1972.

Recent collectors describe this plant as a tree or large shrub, to 5 m. tall, the (immature) fruit green, tinged with purple, and have encountered it at the borders of pastures in the subpáramo, at 2700—2975 meters altitude, in fruit in May and November. Acosta-Solis (1968) records the vernacular name, "cogollo morado", and cites Acosta-Solis 6670 from Ecuador.

Additional citations: COLOMBIA: Cundinamarca: Barclay, Jua-jibioy, & Gana 3376 (W—2702205); Humbert, Idrobo, & Jaramillo 27577 (P).

CITHAREXYLUM SULCATUM var. HIRTELLUM Moldenke, Phytologia 22: 6. 1971.

Bibliography: Moldenke, Fifth Summ. 2: 861 & 968. 1971; Moldenke, Phytologia 22: 6. 1971; Hocking, Excerpt. Bot. A.21: 30. 1972; Moldenke, Biol. Abstr. 54: 6295. 1972.

Citations: COLOMBIA: Cauca: Espinal T. & Ramos 3284 (N--type).

CITHAREXYLUM SVENSONII Moldenke

Additional bibliography: Moldenke, *Phytologia* 7: 58--59. 1959; Moldenke, *Fifth Summ.* 1: 135 (1971) and 2: 861. 1971.

CITHAREXYLUM TECLENSE Standl.

Additional bibliography: Fedde & Schust. in Just, *Pot. Jahresber.* 58 (2): 329. 1938; Moldenke, *Fifth Summ.* 1: 84, 357, & 432 (1971) and 2: 861. 1971.

CITHAREXYLUM TERNATUM Moldenke

Additional bibliography: Moldenke, *Phytologia* 7: 60--61. 1959; Moldenke, *Fifth Summ.* 1: 95 & 427 (1971) and 2: 861. 1971; León & Alain, *Fl. Cub.*, imp. 2, 2: 298 & 299. 1974.

CITHAREXYLUM TETRAMERUM T. S. Brandeg.

Additional bibliography: Moldenke, *Phytologia* 13: 316. 1966; Moldenke, *Fifth Summ.* 1: 68 (1971) and 2: 861. 1971.

The Gómez Pompa 961, distributed as *C. tetramerum*, is actually *C. lycioides* D. Don.

CITHAREXYLUM TRISTACHYUM Turcz.

Additional synonymy: *Citharexylum cordatum* Hort. ex Moldenke, *Phytologia* 26: 371, in syn. 1973 [not *C. cordatum* Stevens, 1961].

Additional & amended bibliography: Jacks. in Hook. f. & Jacks., *Ind. Kew.*, imp. 1, 1: 550 (1893) and imp. 2, 1: 550. 1946; Anon., *U. S. Dept. Agr. Bot. Subj. Index* 15: 14355. 1958; Jacks. in Hook. f. & Jacks., *Ind. Kew.*, imp. 3, 1: 550. 1960; Moldenke, *Phytologia* 14: 511. 1967; Hocking, *Excerpt. Bot. A.* 13: 569. 1968; Moldenke, *Biol. Abstr.* 49: 2769. 1968; Moldenke, *Fifth Summ.* 1: 95, 100, 107, 357, 427, & 437 (1971) and 2: 861. 1971; C. D. Adams, *Flow. Pl. Jamaic.* 633 & 808. 1972; Alemán Frías, Aurich, Ezcurra Ferrer, Gutiérrez Vázquez, Horstmann, López Rendueles, Rodríguez Graquitesa, Roquel Casabella, & Schreiber, *Die Kulturpfl.* 19: 422. 1972; Farnsworth, *Pharmacog. Titles* 8 (8): vi. 1973; León & Alain, *Fl. Cuba*, imp. 2, 299 & 301. 1974; Little, Woodbury, & Wadsworth, *Trees P. R. & Virg. Isls.* [U. S. Dept. Agr. Agric. Handb. 499:] 858 & 1000. 1974; Moldenke, *Phytologia* 31: 343, 380, 394, & 395 (1975) and 32: 51. 1975.

Recent collectors describe this plant as a small tree and have encountered it in thickets and on steep wooded hillsides, at altitudes of 1000--3000 feet, flowering in January and from July to October, fruiting in January and October. The corollas are said to have been "cream"-colored on Proctor 27582. Adams (1972) states that in Jamaica the species is "Local and uncommon.....on banks, mostly loose shale". Little and his associates (1974) exclude it from Puerto Rico and the Virgin Islands. Gillis 9849 was grown from seed secured in Cuba.

The *C. cordatum* of Stevens, referred to above, is a synonym

of C. caudatum L.

Adams (1972) cites from Jamaica: Adams 7729, Harris 6724, Jamaican Plants 1433, and Proctor 27582 and affirms that the species grows also in Cuba.

The León & Clément 6683, previously cited by me as C. tristachyum, is now the type collection of x.C. leonis Moldenke, while Alain & Chrysogone A.1075, Clément 2849, W. Harris 6724, Hart 640, Hioram 4196, León 3914 & 14031, León & Clément 5437, León & José 4107, C. V. Morton 4083, C. R. Orcutt 3114, and Shafer 7937 & 12086 are C. tristachyum f. urbanii (O. E. Schulz) Moldenke.

Additional citations: CUBA: Oriente: León 12235 (W—2289342). JAMAICA: MacFadyen s.n. (Pd); G. R. Proctor 27582 (M1, N); Yuncker 18324 (B1—131160). CULTIVATED: Florida: Gillis 9849 [U. S. Fl. Introd. M-4661] (Ba); Woodbury & Buswell s.n. [August 13, 1946] (Ws).

CITHAREXYLUM TRISTACHYUM f. URBANII (O. E. Schulz) Moldenke, Phytologia 31: 25. 1975.

Synonymy: Citharexylum urbanii O. E. Schulz in Fedde, Repert. Nov. Sp. 5: 193—194. 1908. Citharexylum urbanii O. E. Schulz apud Alain in León & Alain, Fl. Cuba, imp. 1, 4: 301, in syn. 1957. Citharexylum urbanii O. E. Schulz ex Moldenke, Résumé 259, in syn. 1959.

Bibliography: O. E. Schulz in Fedde, Repert. Nov. Sp. 5: 193—194. 1908; Prain, Ind. Kew. Suppl. 4, imp. 1, 49. 1913; Moldenke, Prelim. Alph. List Invalid Names 18. 1940; Moldenke, Known Geogr. Distrib. Verbenac., [ed. 2], 15. 1942; Moldenke, Alph. List Invalid Names 15. 1942; H. N. & A. L. Moldenke, Pl. Life 2: 87. 1948; Alain in León & Alain, Fl. Cuba, imp. 1, 4: 301. 1957; Prain, Ind. Kew. Suppl. 4, imp. 2, 49. 1958; Moldenke, Résumé 259. 1959; León & Alain, Fl. Cub., imp. 2, 2: 301. 1974; Moldenke, Phytologia 31: 25, 380, & 395. 1975.

Recent collectors describe this plant as a shrub or small tree, 6—15 feet tall, with orange-colored fruit, and have encountered it among limestone rocks, on limestone hills, and in "lime rock thickets", at altitudes of 300—600 meters, flowering from June to October, and fruiting in February, August, and November. The corollas are said to have been "white" on Shafer 7937.

All the specimens cited below were previously cited by me as typical C. tristachyum Turcz. The form differs, however, from the typical form of the species in having the lower surface of its leaf-blades more or less pilose-pubescent, sometimes quite densely so over the whole lower surface, but at other times apparently wearing off everywhere except along the midrib or in the vein-axils.

Citations: CUBA: Las Villas: León 14031 (Ha, N); León & Clément 5437 (Ha, N); León & José 4107 (Ha, N); C. V. Morton 4083

(W--1783452); Shafer 12086 (N, N). Oriente: Alain & Chrysogone A.1075 (N); Clément 2849 (Ha, N); Hioram 4196 (Ha, N, N); León 3914 (Ha, N); Shafer 7937 (N). JAMAICA: W. Harris 6724 (B--type, B--isotype, B--photo of type, E--photo of type, F--145894--isotype, F--185311--isotype, K--photo of type, N--isotype, N--isotype, N--photo of type, N--photo of isotype, S--photo of type, S--photo of isotype, W--photo of type, Z--photo of type, Z--photo of isotype); Hart 640 (F--393694, N, W--1323184); C. R. Orcutt 3144 (W--1478330).

CITHAREXYLUM ULEI Moldenke

Additional bibliography: J. F. Macbr., Field Mus. Publ. Bot. 13 (5): 679. 1960; Moldenke, Phytologia 13: 317. 1966; Moldenke, Résumé Suppl. 17: 12. 1968; Moldenke, Fifth Summ. 1: 115, 140, & 148 (1971) and 2: 861. 1971.

Recent collectors describe this species as a tree, 8--10 m. tall, the corollas white, and the fruit red. They have encountered it at 740 m. altitude, flowering in April and fruiting in May.

Additional citations: PERU: Cuzco: Vargas C. 15338 (W--2446617). BRAZIL: Amazonas: Ducke 470 (E--1157546).

CITHAREXYLUM ULEI var. CALVESCENS Moldenke

Additional bibliography: Moldenke, Phytologia 13: 317. 1966; Moldenke, Fifth Summ. 1: 148 (1971) and 2: 861. 1971.

CITHAREXYLUM VALLENSE Moldenke

Additional bibliography: Moldenke, Phytologia 7: 68--69. 1959; Moldenke, Fifth Summ. 1: 115 (1971) and 2: 861. 1971.

CITHAREXYLUM VENEZUELENSE Moldenke

Synonymy: Citharexylum poeppigii f. anomalum Moldenke, Phytologia 8: 459. 1963. Citharexylum poeppigii f. anomala Moldenke apud López-Palacios, Revist. Fac. Farm. Univ. Los Andes 14: 21, sphalm. 1974.

Additional bibliography: Moldenke, Phytologia 7: 69--70 (1959), 8: 459 (1963), and 13: 302. 1966; Moldenke, Fifth Summ. 1: 122 (1971) and 2: 860 & 861. 1971; Moldenke, Phytologia 28: 436. 1974; López-Palacios, Revist. Fac. Farm. Univ. Los Andes 14: 21 (1974) and 15: 11, 12, 17, 19, 20, & 22--24, [fig. 4]. 1975; Moldenke, Phytologia 21: 349, 382, & 394 (1975) and 32: 55 & 66. 1975.

Illustrations: López-Palacios, Revist. Fac. Farm. Univ. Los Andes 15: [fig. 4]. 1975.

Recent collectors describe this as a tree, 7--15 m. tall, with opposite or ternate leaves and with racemes axillary in the axils of the upper leaves and of the same number as the subtending leaves, at altitudes of 180--250 m., flowering in June, and fruiting in June and August.

López-Palacios says of this species: "Hojas siempre verdes (perennifolio?). Flores fragantes en antesis, sésiles o con pecíolos obsoletos, los que en fruto llegan hasta 1 mm. Inflor-

escencias paucifloras. Fruto apiculado, verde cuando inmaduro, amarillo verdoso cuando maduro." He reduces C. poeppigii f. anomala Moldenke to the synonymy of this taxon and this is probably correct. He found it to be "muy abundante también a lo largo de la carretera entre Punta de Piedra y Santo Domingo, Edos. Barinas y Táchira". His spelling of the form epithet as credited to me is erroneous (the generic name is neuter, not feminine) and his citation of the publication of it as being in volume "9" of Phytologia is also incorrect. Concerning it he says (1975): "He examinado la población del Llano venezolano y he encontrado que la llamada forma anomala aparece en los árboles en el lado por donde reciben el viento! Simplemente las flores expuestas al viento del Llano, que en épocas es muy fuerte, se alargan y se aplanan hasta el punto de hacerlas aparecer diferentes a las del otro lado, que conservan la forma típica.

"Por lo expuesto rechazo esta forma y creo que no tenga validez, ya que sería una inconsecuencia colocar la mitad un árbol en un taxon y la mitad restante en otro. Hay ejemplares de herbario en flor muy similares a C. macrophyllum... Aun el mismo Dr. Moldenke a veces ha dudado sobre su interpretación y yo llego a creer que bajo C. poeppigii f. anomala se han colocado especímenes de otras especies, como C. macrophyllum y C. venezuelense.

"Si estudiamos cuidadosamente la estructura de los cálices, la nervadura, y el peculiar desprendimiento de los esterigmas de las hojas viegas, es a este último taxon (C. venezuelense) al que corresponde el tipo de C. poeppigii f. anomala, y allí lo coloco sinonimia."

He also reviews in detail the checkered history of López-Palacios 2924, 3156, & 3283. He finally compared these with the type of C. venezuelense in the Gray Herbarium (which he found to bear two labels, one asserting that it was collected at Colonia Tovar, and the other that it was collected "Cetus: Caracas & La Guaira"). He concludes that "Sin embargo, saqué en claro que el material por mí colectado era sin lugar a dudas coespecífico con el de Fendler, y también algún otro material que tanto el Dr. Moldenke como yo habíamos considerado que pertenecía a C. poeppigii f. anomala, a saber: Bernardi 2142, tipo de la forma acabada de citar (determinación del Dr. Moldenke) y Ruiz-Terán 1177 (determinación mía), que igualmente concuerdan con el tipo de C. venezuelense."

The vernacular name, "oreja de burro", has been recorded for C. venezuelense. Material has been misidentified and distributed in some herbaria as C. dryanderæ Moldenke.

Additional citations: VENEZUELA: Apure: López-Palacios 2928 (Ac, Ld). Mérida: López-Palacios & Bautista 3283 (Ld). Táchira: López-Palacios 3156 (Ld, Z).

CITHAREXYLUM VIRIDE Moldenke

Additional bibliography: Moldenke, Phytologia 7: 70—71. 1959;

Moldenke, *Résumé Suppl.* 16: 3 & 4. 1968; Gibson, *Fieldiana Bot.* 24 (9): 189. 1970; Sáez T. & Nasser C., *Revist. Biol. Trop.* 18: 136. 1971; Farnsworth, *Pharmacog. Titles* 6 (9): iii. 1971; Moldenke, *Fifth Summ.* 1: 79, 87, & 90 (1971) and 2: 861. 1971; Farnsworth, *Pharmacog. Titles* 6, *Cum. Gen. Ind.* [31]. 1973; Moldenke in Woodson & Schery, *Ann. Mo. Bot. Gard.* 60: 93, 99--100, & 145. 1973; Moldenke, *Phytologia* 31: 346--348, 454, & 459 (1975) and 32: 70. 1975.

Recent collectors describe this species as an arborescent shrub or tree, 2.3--8 m. tall, the trunk 3--6 inches in diameter, the crown full and spreading, the leaves firmly membranous, rich-green above, paler-green beneath, the flowers sweet-scented, the calyx green, the corolla-lobes spreading, the fruiting-pedicels white, the fruiting-calyx light-green, and the fruit orange or bright-orange. The corolla is uniformly described as white (e.g., Cooper III.384, Skutch 4315, Steyermark 41825). Jiménez M. says of the fruit: "anaranjados primero, luego parde oscuro".

Collectors have encountered the plant in cacao plantations, clearings, forests, embankments on streamsides, the forested edges of creeks in tropical rainforests and moist secondary forests, in very moist habitats partly in the shade along roadsides, and "infrequent" in secondgrowth, at altitudes of sealevel to 1500 meters, flowering from December to April and in June, and fruiting in February, July, August, and December. The fruits are referred to as "berries" by Woodson & Schery, by actually are drupes. Skutch 4315 in the Missouri Botanical Garden herbarium exhibits one binary leaf.

The species is certainly very closely related to C. cooperi Standl. The two taxa may be distinguished as follows:
 Leaf-blades subglabrate, pulverulent, or merely puberulent on the lamina beneath, more or less distichously short-pubescent only along the midrib. C. viride
 Leaf-blades rather densely velutinous over the entire lower surface C. cooperi

Gibson (1970) comments that "A plant of Costa Rica and Panama, C. viride Moldenke, is very much like C. hexangulare and may prove synonymous with it. The type of C. viride, Cooper & Slater 157, from Panama, is a fruiting specimen, and the species was described without flowering material. Later collections of flowering material identified by Moldenke as C. viride differ from C. hexangulare only in their slightly broader calyces. Although the leaves of C. viride are described as densely puberulent beneath, leaves of the type specimens are essentially glabrous beneath and only very minutely pubescent along the lower part of the costae and in the axils of some veins."

Material of C. viride has been misidentified and distributed in some herbaria (and even cited by me in previous publications) as C. caudatum L., C. cooperi Standl., C. hirtellum Standl., and C. integerrimum (Kuntze) Moldenke. On the other hand, the Molina R., Williams, Burger, & Wallenta 17478, distributed as C. viride,

is actually C. hexangulare Greenm.

Additional citations: GUATEMALA: Izabal: J. A. Steyermark 41825 (N). COSTA RICA: Guanacaste: Brenes 12322 (N); Jiménez M. 1165 (W—2751901). San José: Molina R., Burger, Jiménez, & Walentz 18045 (N); Skutch 4315 (E—1157067, N). PANAMA: Bocas del Toro: G. P. Cooper 384 (F—579254, F—579523, K, N, N—photo, W—1521573, W—1521580, Y—11975Y, Z—photo). Chiriquí: P. H. Allen 3661 (E—1572261, N, N); Cooper & Slater 201 (N); Dwyer & Hayden 7762 (E—1926253); P. White 223 (E—1190153); Woodson & Schery 755 (E—1204855, N). Province undetermined: Stork 42 [Western Panama] (M1, W—1166830).

CITHAREXYLUM WEBERBAUERI Hayek

Additional synonymy: Citharexylum weberbaueri Hayek apud Hocking, Excerpt. Bot. A.11: 504, sphalm. 1967.

Additional & emended bibliography: Prain, Ind. Kew. Suppl. 4, imp. 1, 49 (1913) and imp. 2, 49. 1958; J. F. Macbr., Field Mus. Publ. Bot. 13 (5): 668, 671, & 680—681. 1960; Moldenke, Phytologia 13: 317. 1966; Hocking, Excerpt. Bot. A.11: 504. 1967; Moldenke, Biol. Abstr. 49: 4199. 1968; Moldenke, Résumé Suppl. 16: 19. 1968; Moldenke, Fifth Summ. 1: 140, 431, & 437 (1971) and 2: 861. 1971; Moldenke, Phytologia 31: 338. 1975.

Macbride (1960) cites only the type collection, Weberbauer 3731, from Huánuco, Peru, and comments that this plant is "A meter tall, resembling C. flexuosum but the leaves not rounded, the racemes few-flowered, the blossoms small.....; this as [-and] C. andinum Mold. may be genetically distinct but the problem is certainly open to question."

ADDITIONAL NOTES ON THE GENUS PITRAEA. III

Harold N. Moldenke

PITRAEA Turcz., Bull. Soc. Imp. Nat. Mosc. 35 (2): 328—329. 1862.

Synonymy: Castelia Cav., Anal. Cienc. Nat. Madrid 3: 134, pl. 30, Icon. & Descr. 6: 60, pl. 583. 1801 [nom. rejic.; not Castelia Liebm., 1853, nor Castela Turp., 1806, nor Castellia Tin., 1817]. Cartelia Cav. apud C. Gay, Hist. Fis. Chile Bot. 5: 7, in syn. sphalm. 1849. Phelloderma Miers, Trans. Linn. Soc. Lond. Bot. 27: 100. 1870. Priva Juss. ex Miers, Trans. Linn. Soc. Lond. Bot. 27: 100, in syn. 1870 [not Priva Adans., 1763]. Bouchea Gay ex Miers, Trans. Linn. Soc. Lond. Bot. 27: 100, in syn. 1870 [not Bouchea Cham., 1832]. Bastelia Cav. ex Moldenke, Alph. List Cit. 4: 1068, sphalm. 1949.